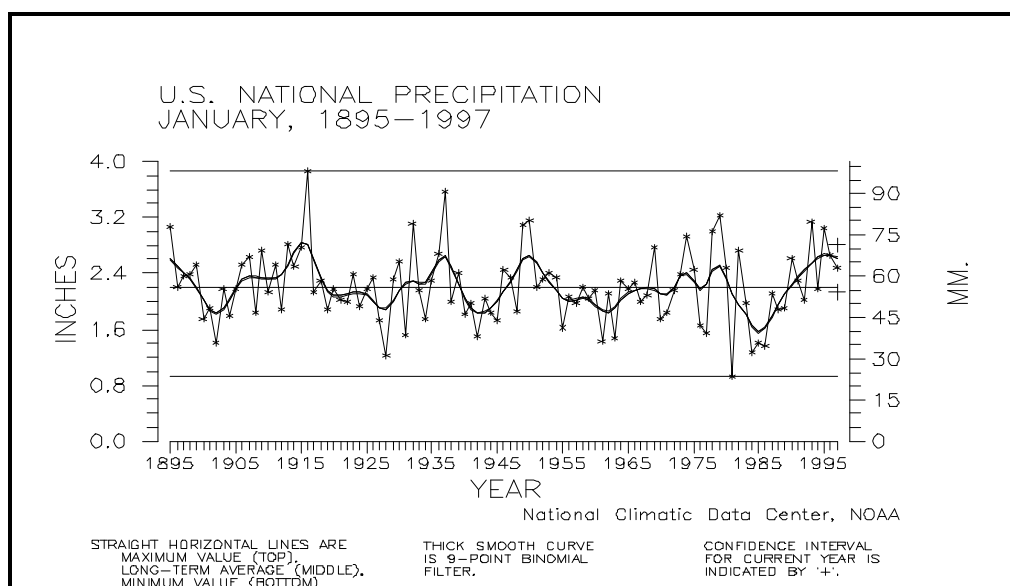
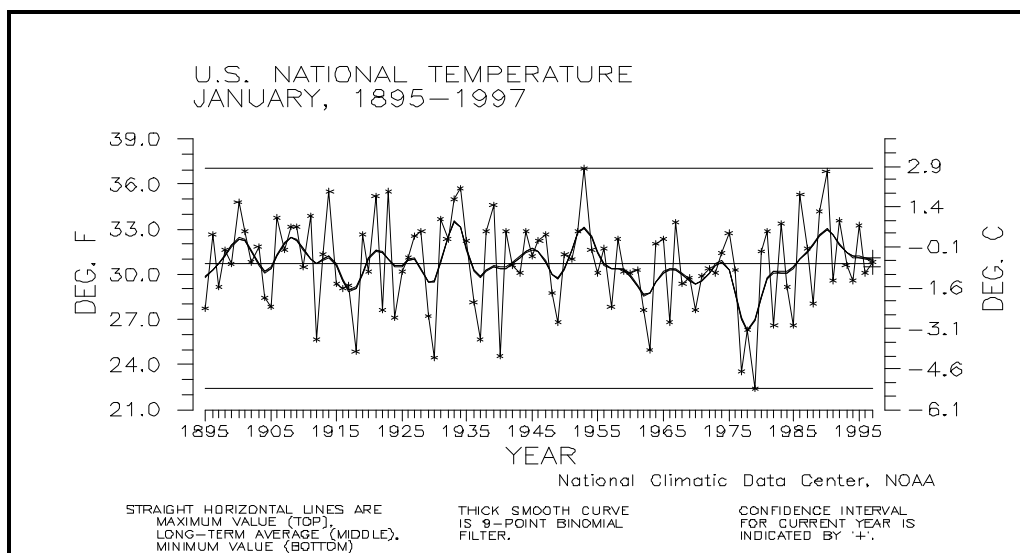


# Monthly Activity Report

January 1997

## National Climatic Data Center

A National Resource for  
Climate Information



Preliminary data for January 1997 indicate that temperature averaged across the contiguous United States was near the long-term mean ranking as the 51st coolest January since 1895. None of the country averaged much cooler or much warmer than normal for the month (Top Figure).

January 1997 was the 27th wettest such month since 1895 (Bottom Figure). Twenty-two percent of the country experienced much wetter than normal conditions while four percent of the country was much drier than normal.

## DIRECTOR'S HIGHLIGHTS

### **NCDC Holds Management Retreat**

NCDC management personnel participated in the Center's annual Management Retreat at the Broyhill Inn and Conference Center in Boone, North Carolina, January 14-17, 1997. The theme for this year's retreat was "NCDC in the Year 2001." The Strategic Planning Focus Group report (results of a 15 employee task group) was presented, and senior management briefed their vision for the year 2001. The group focused on the main thrusts for the future: automation (acquisition, processing, and dissemination), on-line data and information accessibility, and people/customer service. In addition, the group developed tasks and milestones to successfully meet future requirements. NGDC, NODC, and NESDIS representatives attended the last day to discuss the NNDC-NVDS with Center personnel.

### **Satellite Applications Conference to be Hosted by NCDC**

Planning continues for the Satellite Applications Conference being held in Asheville on March 4-6, 1997. Approximately 60 attendees are expected, with 30 papers to be presented. Mr. Robert S. Winokur, Assistant Administrator of NESDIS, will provide a keynote address on the NOAA Satellite program. The focus of the conference is to exchange information between users of satellite data concerning the varied applications being developed.

### **NVDS Contract Support**

The largest delivery order to date was added to the Mission Services Support Contract with Orkand as of January 6, 1997. The task supports the NOAA Virtual Data System (NVDS) data rescue activity.

The first of three NVDS related delivery orders anticipated during FY 97, this one provides for the index, check-out, check-in, and quality assurance for duplicated microfilm rolls. Image Entry (IE) received 128 rolls of microfilm to use as a test batch demonstration. They, in turn, will submit a sample batch to Orkand by the end of January for quality assurance testing. The first routine shipment, about 200 rolls, will occur February 4, with full production expected to begin by May 1997. The entire microfilm collection rescue is scheduled to be complete by July 1998.

### **NCDC World Wide Web (WWW) Site Receives NetGuide Gold Site Award**

NCDC's WWW was selected by NetGuide as a Gold Site, one of the best on the Web. NetGuide states, "The National Climatic Data Center home page goes far beyond telling you how hot it's going to be in your hometown tomorrow. The NCDC focuses on detailed technical reports of Atlantic tropical storms, global historical climate, and other in-depth meteorological statistics. Lush, full-color graphs and satellite photographs will attract both weather experts and the mildly curious alike, while the newly added search engine aids more topical research efforts." NetGuide has screened over 100,000 locations and then reviewed more than 50,000 sites, with their Gold Award going to only 15,000 of the web's best sites.

### **Customer Service**

A new all time record of 14,682 customer transactions were processed in January 1997 representing a 43 percent increase over January 1996 statistics. A total of 8,911 customer telephone calls were serviced last month, reflecting

a 35 percent increase compared to the same month's activities a year ago. A new record of 1,434 electronic mail contacts were received in January 1997 indicating a dramatic 102 percent growth over January 1996 contacts. Even customer facsimile transmissions exhibited an 8 percent increase over January 1996 receipts following several months of steady decline. The only customer media experiencing a decline last month was the 4 percent annual decline in letter contacts further illustrating the continuing shift in customer media preference. January 1997 record activities have set a torrid pace as we enter the traditionally busiest customer season of the year.

#### **National Virtual Data System Activities**

The West Virginia High Technology Consortium Foundation (WVHTCF) has begun negotiations with IDM, Inc., for the manuscript rescue project. The plan is to scan and index some 15 million

pages during the first year. NCDC has been working with the WVHTCF to answer questions from vendors concerning the software migration solicitation. Vendor proposals are due January 31, 1997. Draft versions of the Customer Order Management Processing System (COMPS) and the Target Architecture document are currently being reviewed by the three data centers.

#### **New Life in the Alaskan Coop Program**

The Alaskan Coop Program is showing strong signs of new life. Thirty-two new coop stations were opened for the December 1996 processing month, all in the northern Alaskan district now managed by the Fairbanks office. The Alaskan Coop Program was formerly managed by one person in Anchorage, but it is now divided among Anchorage, Fairbanks, and Juneau.

## CLIMATE DATA AND INFORMATION SERVICES

#### **Data Base Development**

##### **TOGA-COARE**

Tropical Ocean and Global Atmosphere-Coupled Ocean Atmosphere Response Experiment (TOGA-COARE) Data and Information Unit (DIU), an on-line catalog and directory of TOGA-COARE data, became operational at WDC-A/NCDC January 17, 1997. The DIU was developed by the University of Delaware, Lewes, Delaware. It is

accessible via the internet and the world wide web.

##### **NEXRAD Tape Recycling**

To realize additional savings in the costs of collecting and processing Level II data, NCDC is developing procedures to recycle 8mm tapes to the NEXRAD sites after the data have been verified and merged to archive media. NCDC sent several Level II tapes to Garner Industries for required degaussing. These tapes are now being used at two

NEXRAD sites to record data. If no recording problems arise, NCDC expects to purchase the degausser and begin the tape recycling process within the next few months.

### Digital Data Rescue and Migration

(1) Archived back-up copies of 87,965 reels of NOAA Polar Orbiter Level 1B data since November 1991. The period of record of this data set is October 1991 thru the present (operational).

(2) Archived 4,411 gigabytes of NEXRAD Level II radar data on 1,244 exabyte tapes for the NEXRAD Project.

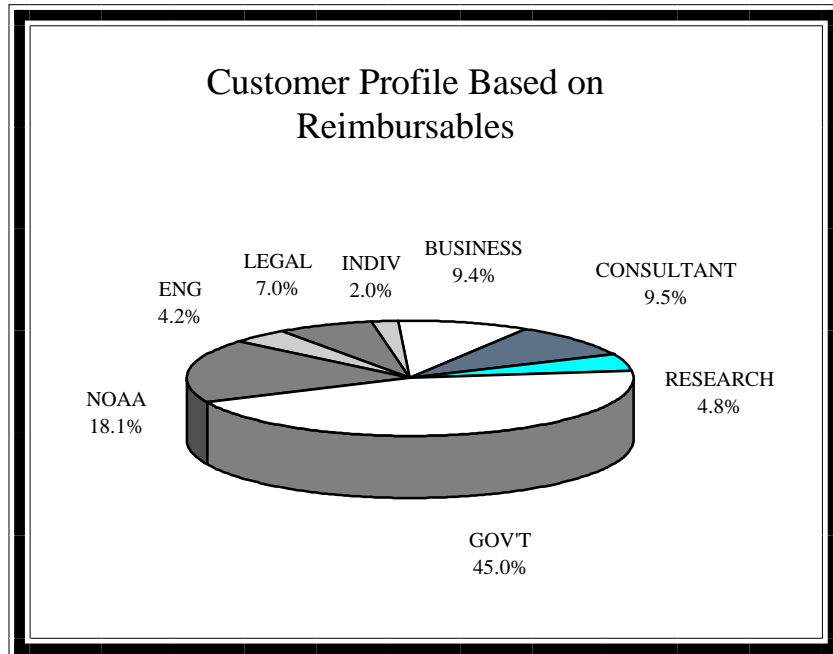
(3) Archived 41 gigabytes of radar data on 142 NEXRAD Level III disks.

(4) Archived library and back-up copies of NOAA Polar Orbiter Level 1B (TD-3602). The period of record of these data is November 1978 thru March 1985. We have rescued 18,556 cartridges from a total of 25,440 input cartridges of Level 1B and products. The total project rescue is 72.9 percent completed.

### ◆ Data and Information Distribution

#### Large Data Set Provided to National Severe Storms Laboratory (NSSL)

The NCDC provided a copy of its entire first order stations' hourly surface data set (TD-3280) to the NSSL in Norman, Oklahoma. The data set was provided on twenty-one 8mm tapes, with the production being accomplished on the new



Hierarchical Data Storage Systems (HDSS). This was the first use of the HDSS for a job of this magnitude, and it required only a fraction of the time that would have been needed using routine procedures on the UNISYS. NSSL is using this and other data sets previously provided in an extensive study of severe weather in the U.S. The final result will be an analysis and climatology of various types of severe weather, such as thunderstorms, tornadoes, and winter storms. NCDC will then be able to use these results in various products, such as the upcoming Climate Atlas CD-ROM.

#### ASOS Site Supplementary Precipitation Data On-line

Precipitation data derived from Universal gauges at select ASOS sites is now available via anonymous FTP. The file includes all data months beginning with September 1995--additional data months will be added on a monthly basis. The file may be accessed from the NCDC Home Page (<http://www.ncdc.noaa.gov/ncdc.html>). On the home page select On-line Data Access, go

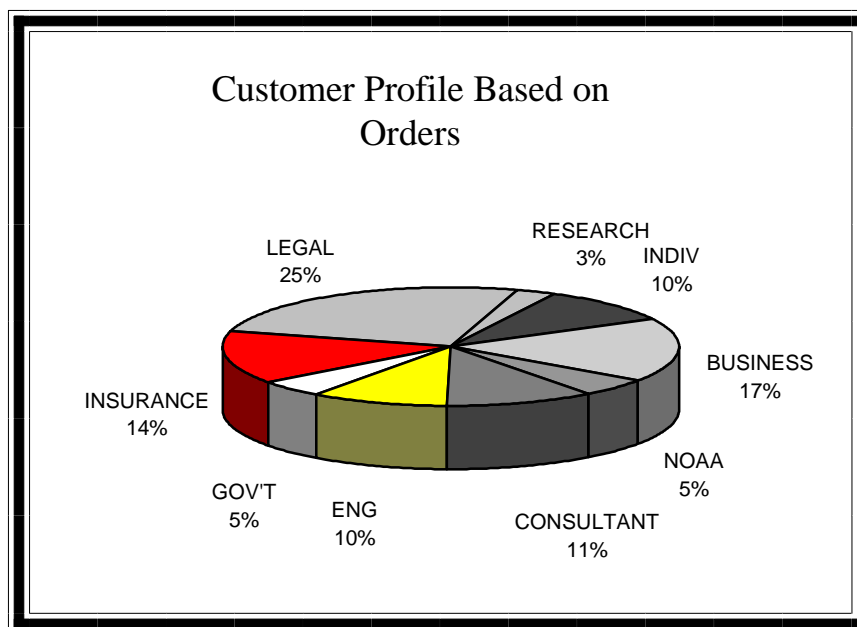
down to the heading Surface Daily, Monthly, and Other Data Types, then to the subheading Other Types of Data. Under Other Types of Data select the heading Supplemental Hourly Precipitation for Selected NWS ASOS Sites. Direct access can be gained by using: <http://www.ncdc.noaa.gov/onlinedata/supp-hpd.html>.

#### **Report on West Coast Flooding Available**

NCDC completed Tech Report 97-01, The Winter of '96-'97 West Coast Flooding. The report includes a narrative describing the event, data tables of precipitation amounts, color analyses, and plotted maps, as well as infrared satellite image of an incoming storm system. The report will be available at the February '97 American Meteorological Society (AMS) Conference and can be accessed via NCDC's home page. The on-line report contains some additional satellite images and MPEG movie loops along with links to additional sources of information. A few California locations received over 40 inches of precipitation during December. This precipitation, combined with unusually warm temperatures, produced extensive snow melt during the heaviest rainfall. Damage estimates for the region now exceed \$2 billion.

#### **Weather Events Page Placed On-line**

NCDC has placed a World Wide Web page on-line entitled Weather Events of 1993-1997. The page provides quick and easy access to 14 special



reports concerning major U.S. weather events of the past 5 years. This includes (among others) the blizzard of '93, the Midwest flooding of '93, Alberto's flooding in '94, California's flooding in '95, Hurricane Opal in '95, the winter of '95-'96, and the recent west coast flooding.

#### **International Station Meteorological Climate Summary (ISMCS) CD-ROM**

Version 4 of the popular International Station Meteorological Climate (ISMCS) CD-ROM has been distributed. It is the product of a joint effort by NCDC, the Navy's Fleet Numerical Meteorology and Oceanography Detachment, and the Air Forces's Combat Climatology Center-Operating Location A. Version 4 adds 400 new foreign locations with 175 of these in the Sahel region of Africa, updates all NWS and Navy locations through 1995, and adds over 60 new NWS and Air Force sites. The most significant addition is the inclusion of Global Historical Climate Network precipitation data for over 1000

foreign summary sites. The ISMCS compact disk now contains extensive climate summaries and graphics for nearly 2,600 locations with less complete summaries for approximately 4,000 other locations. This one disk equates to about seven tons of books formerly stored at NCDC.

### ♦ Satellite Data Requests

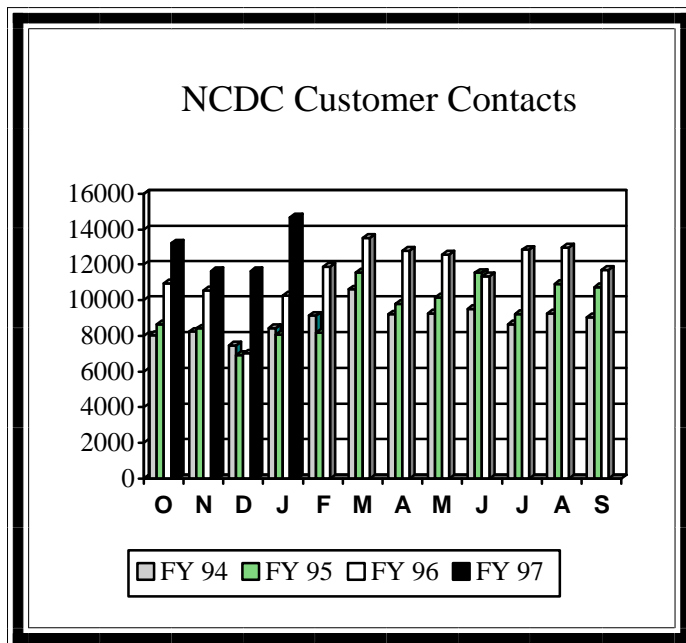
#### Upcoming Discovery Channel Documentary to use GOES Imagery

A representative of the Discovery Channel contacted NCDC for Geostationary Observational Environmental Satellite (GOES) imagery to be used in a future television documentary entitled Storm Warning. The program will focus on the destructive power of Nor'easters, and in particular the December 1992 storm which had a major impact on the eastern U.S. seaboard. Color-enhanced GOES infrared imagery at six hour intervals from December 11-13, 1992, were provided. The imagery will be incorporated into a movie loop for use in the program. Storm Warning is scheduled to air in the fall of 1997.

#### POES Satellite Data used in Upcoming Workshop

The Arizona-Mexico Commission, in conjunction with the University of Arizona International Campus, has agreed to host a workshop for NOAA's Office of Sustainable Development and Intergovernmental Affairs on January 24-26, 1997. National Climatic Data Center (NCDC) contributed a color composite transparency of a Polar Orbiting Environmental Satellite image

NCDC Customer Contacts



showing a clear scene over the State of Arizona and the State of Sonora. It will be used as part of a slide presentation for the workshop.

#### Satellite Assessment of Hurricane-Induced Ocean Turbidity

NOAA's Coastal Services Center, located in Charleston, South Carolina, is assessing ocean turbidity due to suspended particles using Advanced Very High Resolution Radiometer (AVHRR) 1-kilometer resolution images from the NOAA Polar Orbiter Environmental Satellites (POES) immediately prior to, during, and just after landfall of hurricanes along the southeastern U.S. and Gulf of Mexico. Low coastal turbidity values preceding the arrival of hurricane weather conditions are contrasted with broad turbidity patterns immediately following storm passage. An attempt will be made to separate turbidity caused by wind-driven sediment re-suspension versus the occurrence of turbidity from sediment-laden river

plumes caused by hurricane force precipitation over coastal watersheds. For this study, the NCDC provided more than 700 data sets over a ten year period.

### ♦ Requests from News Media

#### **GOES-9 Satellite Images used on ABC News**

ABC News obtained satellite images depicting storms moving through the Hawaiian Islands during December 1996 and early January 1997 from NCDC. Over 50 visual, infrared, and color-enhanced infrared images taken by the GOES-9 satellite were processed and electronically transferred to the news center just in time to be included in a special report aired on Prime Time Live, Wednesday, January 15, 1997. The segment featured the miraculous rescue of two young fishermen presumed to have drowned in mid-December when their boat capsized. They survived on a small raft drinking what little rain water they could collect.

### ♦ Interesting Requests

#### **Soft Drink Sales Down**

A new general manager of a large soft drink distributor contacted the NCDC for help in defending her sales record. After taking the management position in early 1996, sales dropped dramatically. In an attempt to keep her job, she requested climatological records to prove the summer of 1996 was cooler and less humid than the summer of 1995. Local Climatological Data Monthly Summaries for both summers were provided.

#### **U.S.S. Kawishiwi**

In late August of 1969 a young sailor was working on the jungle deck of the U.S.S. Kawishiwi which was on duty in the Gulf of Tonkin just offshore Hanoi, North Vietnam. A large wave struck the ship broadside sending him into a tangle of cables and rigging. The sailor suffered serious injuries to his back. The Legal Aid Society of Cincinnati contacted the NCDC for help in documenting this event so that the seaman could be eligible for medical dispensation. Information retrieved from the Mariner's Weather Log archived in the NCDC's library narrated the occurrence of Typhoon Doris. The storm had developed in the western Philippines and moved northwest into the South China Sea before making landfall on the North Vietnamese coast.

#### **Sickle Cell Study**

The Medical College of Virginia (MCV), located in Richmond, Virginia, contacted the NCDC for assistance in a study involving Sickle Cell Anemia, a blood disorder having a high mortality rate. Between October 1995 and November 1996 there were over 500 emergency room visits or hospital admissions for clients with this illness. A MCV Clinical Nurse Specialist in the field of Oncology and pain management is trying to draw a correlation between medical treatments and meteorological conditions. Hourly surface weather observations for the study period were provided.

#### **Cranberry Climatology**

The American cranberry is a plant species indigenous to an area from Nova Scotia, westward to Minnesota, and as far south as Virginia. These

growing areas represent a wide range of climatic conditions. A major North American producer is using many resources including NCDC's International Station Meteorological Climate Summary CD-ROM to evaluate the climate in these areas. The goal is to find climatic similarities in growing areas that have experienced high yields and to use this information to select new regions that will have an optimal growth potential. Cranberries can grow in temperatures as cold as 10 degrees Fahrenheit but not warmer than 80 degrees. Additionally, temperatures above 60 degrees cause increased vulnerability to wind. The findings of this research will potentially lead to a much larger cranberry crop.

#### **Survivor Remembers**

The Tall Ships Race from Bermuda to Halifax was just beginning when trouble began. A frontal wave had formed off the Carolina Coast on May 31, 1984, and as it moved east, the winds and seas increased. Ship observations recorded 17-foot seas with 23-foot swells, accompanied by 50-knot winds. On June 6, the British barque Marques was knocked down and sank within minutes. Rescue efforts saved 9 hands out of a crew of 28. A survivor has requested any documentation that exists from the NCDC on this storm. Several GOES full-disk images taken every hour were provided, along with a narrative from the Mariners Weather Log.

### **♦ Technology Applications**

#### **Hierarchical Data Storage System (HDSS)**

TD3280, Surface Hourly Data 1992-95, and TD3200, Summary of the Day (Cooperative Data) through 1991, have been loaded onto the Hierarchical Data Storage System (HDSS). The total volume of TD3280 is about 38 gigabytes comprising data from 1,376 stations and representing 26,610 year-files of data. Additional

TD32xx data sets will be loaded following the test of a new automated load system developed by NCDC. The implementation of this automated load procedure will effectively transfer loading operations to the users and will result in a significantly higher rate of data loading.

#### **Historical GOES Browse Server Placed On-line**

The National Climatic Data Center's Historical GOES Browse Server was placed on-line. This web site is unique compared to other sites offering satellite images, in that it provides a growing archive of on-line GOES-8 and GOES-9 retrospective images. Browse imagery at 8 km resolution are available from the present to as early as December 14, 1996. These daily browse imagery cover much of the western northern hemisphere at approximately 00UTC (7:00pm EST) and 1200UTC (7:00am EST). Plans for the server include populating the on-line archive with full disk GOES IR images back to mid-1992. The GOES browse server can be accessed from the NCDC Home Page (<http://www.ncdc.noaa.gov/>) under What's New and On-line Data Access.

#### **DMSP Marshall Workstation**

NCDC initiated procurement of an IBM RS/6000 workstation which will service the Defense Meteorological Satellite Program (DMSP) data formerly handled by the Marshall Distributed Active Archive Center (DAAC). The workstation configuration will allow production of 8mm and 4mm customer tapes and a direct SCSI connection to a 3590 drive in the 3494 server. NCDC is working with Marshall operations to test and benchmark current Marshall DMSP data.



## SCIENTIFIC AND PROFESSIONAL ACTIVITIES

### ♦ Working Groups/Committees/ Meetings

#### **NCDC Hosts NOAA/NASA Science Review Panel**

The NOAA/NASA Science Review Panel (approximately 30 individuals) met at the National Climatic Data Center January 22-24, 1997, to review NOAA/NASA Climate Data Set Enhancement proposals (82 total). Decisions made by the review panel will be announced after mid-February.

#### **NEXRAD/ASOS Implementation Review**

NCDC Deputy Director, Ken Davidson, participated in the Next Generation Weather Radar/Automated Surface Observing System (NEXRAD/ASOS) Implementation Review meeting in Silver Spring, Maryland. Most of the NEXRAD items were briefed as on-track and very well accomplished. There are three Congressional mandated systems to be installed within the next year or two, and the National Weather Service (NWS) is working on an open systems based environment.

#### **ASHRAE Winter Meeting**

NCDC's Marc Plantico participated in the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) winter meeting in Philadelphia, Pennsylvania, on January 27-29, 1997. Mr. Plantico is chairman of the

Weather Information committee that is currently developing new weather tables for the 1997 ASHRAE Handbook of Fundamentals. The committee has several other projects underway including: Automatic Generation of Hourly Design Sequences; Snow Melt Load Design; Typical Weather Years for International Locations; and Weather Year for Energy Calculations (WYEC2) Toolkit.

#### **Target Architecture/Test Environment**

The NOAA Virtual Data Systems (NVDS) Home Page has been placed on-line by the West Virginia High Technology Consortium Foundation (WVHTCF) Target Architecture Group. Programmers on the West Virginia team are working on a mapping tool to allow a geographical query for the Automated Surface Observing System (ASOS) data that will be placed on-line for this system. A demonstration of the system is scheduled for March.

#### **AMS Conference**

The 10th Conference on Applied Climatology sponsored by the American Meteorological Society and organized by the AMS Committee on Applied Climatology will be held October 20-24, 1997, in Reno, Nevada. Papers are now being solicited on all aspects of Applied Climatology. David Easterling, National Climatic Data Center, is the program chairman.

## EMPLOYEE ACTIVITIES

### ♦ EEO and Community Outreach

On January 15, 1997, NCDC's Kathy Kidwell, Satellite Services Branch, participated as a Science Fair judge at the Martin Luther King Middle School in Beltsville, Maryland.

### ♦ Personnel Resources

Janet Murley, a technical writer, joined the NOAA Virtual Data System (NVDC) staff January 2, 1997.

### ♦ Training

Jody Klein attended a two-day course in Dallas, Texas, on Sun's Volume Manager for managing SPARC storage arrays. The training was strongly recommended by Sun engineers for Sun 5000 storage management. Immediately upon his return, Mr. Klein used the newly acquired knowledge to recover data from a failed disk.

Karol Pittman attended the Management Institute monthly two-day session. The group focused on stress management, communication skills and diversity. Ms. Pittman presented an overview of NOAA and the Center's functions to the class.

## NCDC Data Volumes

